Chapter 2 - Safety & Health Responsibility (REDACTED)

2.1 Applicability

This manual is applicable to: (1) all Ames Employees; and (2) all persons and entities who agree in writing to comply with this manual.

2.2 Safety and Health Responsibility

2.2.1 Center Director

The Center Director has the following safety and health responsibilities (Reference NPD 8710.2B): REDACTED

2.2.2 Designated Safety & Health Official

The Director of Code Q is the designated Safety and Health Official (see Chapter 1 of this manual). Various other health and safety personnel and officers have been delegated specific program authority under the direction of the Safety and Health Official as delineated within the charters of the manual.

The designated Safety and Health Official has the following responsibilities:

1. Provide resources, guidance, and direction for implementing ARC's safety and health program.
2. Ensure that ARC has an organization to carry out its safety and health program. This organization must include:
   - Safety and health officials at appropriate levels.
   - Adequate personnel to carry out ARC's safety and health program.
   - Specialized expertise from other sources such as other agencies, professional groups, consultants, universities, labor organizations, and safety and health committees.
3. Ensure that ARC has requirements, policies, and procedures to carry out ARC's safety and health program.
4. Ensure that ARC has goals and objectives to reduce occupational mishaps.
5. Ensure that ARC has methods to evaluate the effectiveness of its safety and health program.
6. Ensure that priorities for correcting workplace hazards are established.
7. Ensure that the safety and health program is reviewed annually.

Serve as Authority Having Jurisdiction (AHJ), and thereby implement safety provisions with the authority for "approving/concurring" safety related installations, procedures and equipment. The only exception is for the Fire Marshal who shall serve as the Authority Having Jurisdiction for fire prevention and protection activities.

2.2.3 Organizational Directors

Organizational Directors' safety and health responsibilities are to:

1. through 7. — REDACTED
8. Put into practice the seven "Ames Safety Principles"

> 1. All injuries can be prevented.
> 2. Management is accountable for safety and responsible for preventing all injuries.
> 3. Working safely is a condition of employment.
> 4. All hazards can be controlled.
> 5. Management has the responsibility to ensure that all employees are adequately trained.
> 6. Injury prevention is essential to mission success.
> 7. Whenever there is a conflict between our safety and mission objectives, safety shall be our first consideration

9. Ensure that all contractors within your directorate:
   - Follow and use all applicable chapter of the Ames Health and Safety Manual.
   - Meet all safety requirements delineated in their contracts with NASA.
   - Have the ability and means to recognize, evaluate and control recognized hazards in their work with NASA.
   - Comply with all applicable Health and Safety regulations.

2.2.4 Division Chiefs

Division Chiefs' safety and health responsibilities are to: REDACTED

2.2.5 Managers (All Levels)

Each manager, regardless of level, has the following safety and health responsibilities (reference NPG 8715.1): REDACTED

2.2.6 Safety, Environmental, and Mission Assurance, Code Q

Code Q's responsibilities, as defined in AMI 5310.1, are to:

1. Provide guidance and direction for effectively and efficiently implementing NASA and Ames SS&MA policies and standards.
2. Keep Center management apprised of the risks associated with the day-to-day Center activities.
3. Work with project and facility managers to classify the level of risk and applicable regulatory requirements associated with each specific project, facility or operational/research area, and to tailor the SS&MA requirements as appropriate.
4. Serve as the Ames focal point for the review and dissemination of Agency SS&MA policies and requirement documents, and serve as the primary point of contact on internal and external SS&MA matters.
5. Advise the Ames Acquisition Division (Code JA), and/or the cognizant procuring organization on establishment of SS&MA provisions for contracts and purchase orders, and provide evaluation of SS&MA related procurement problems.
6. Perform surveys to determine the degree of compliance of Ames organizations with established SS&MA policies, regulations, requirements, and procedures.
7. Serve as regulatory agency liaison for inspections by Federal, State and local agencies with jurisdiction over industrial safety, Health and environmental compliance.

2.2.7 Safety, Health and Medical Services Division (Safety Division), Code QH

For all the chapters of the Ames Health and Safety Manual, the "Safety, Health and Medical Services Division" will be referred to as the "Safety Division" or the "Ames Safety Division." The Safety Division has the following responsibilities:

1. Develop safety and health policy and standards, and assess the Center performance against those standards.
2. Provide safety and health consultation and support to line management and staff.
3. Provide the following services:
    - Medical Services
        - Health Unit
        - Human Research and Medical Monitoring
        - Employee Assistance Programs (EAP)
        - Drug and Hazardous Substances Control
    - Safety and Health Consultation
        - Industrial Hygiene and Occupational Health
        - Safety and Health Surveys
        - Asbestos and Lead Surveys
        - Health Physics and Radiation Safety
        - Occupational Safety
        - Construction Safety
        - Fire Protection
        - Fire Extinguishers and Fire Extinguisher Maintenance
        - Mishap and Injury Analysis and Documentation
        - Safety Training
        - Explosives Safety

2.2.8 Facility Service Managers (FSMs) and Alternates

The FSM is the first point of contact for services when there is uncertainty as to who is responsible for an activity, building area, or hazard that may impact building occupants or operations. In most cases these contacts will be limited to the determination of the correct point of contact. The FSM's safety and health responsibility is to:

1. Serve as focal point for emergency evacuation planning, communication, and implementation throughout the facility.
2. Assist management in maintaining the Building Emergency Action Plan
3. It is the responsibility of the principal manager responsible for each building or major portion of a building to assign a person to the duties of FSM.

2.2.9 Civil Service Personnel

As defined in NPG 8715.1 Civil Service personnel safety and health responsibilities are to: **REDACTED**

2.2.10 Contractors while Working at Ames Facilities

Each company or organization providing services at ARC is required to:

1. Ensure the safety and health of their employees regardless of where they work (such as in Ames-owned or leased facilities, with government equipment, or together with government employees).
2. Ensure a safety and healthful work environment for all of their employees.

3. Provide a safety and health plan, as required by their contract with NASA. (See Appendix A for outline.)
4. Notify the Contracting Officer if NASA facilities or NASA operations are found not to follow 29 CFR 1910, "General Industry Standards," or 29 CFR 1926, "Safety and Health Regulations for Construction."
5. Ensure that employees are informed of NASA safety and health programs and of the protection afforded employees through these programs.
6. Inform employees of the location of the nearest medical treatment facility, procedures for obtaining treatment, and methods for reporting occupational injuries or illnesses.
7. Instruct employees to immediately report hazardous conditions to their supervisors.
8. Take immediate action to protect and/or evacuate employees in imminent-danger situations.
9. Furnish a safe and healthful place of employment and ensure that identified hazards are eliminated or controlled.
10. Inform employees of specific hazards associated with their workplace and duties, ensure the use of appropriate personal protective equipment, and train employees in a manner that will ensure their safety and health.
11. Participate in the Ames Safety Accountability Program.
12. Exemplify safe and healthful work practices in all that you do and say.
13. Cooperate with and assist safety and health personnel while they are performing their duties as specified in the OSH program.
14. Maintain the Building Emergency Action Plans.
15. Meet the Fire Department or Emergency Services Representative during fire drills and actual emergencies.
16. Be familiar with all known facility hazards.
17. Ensure that proper facility emergency procedures are implemented.

2.3 Responsibilities Safety Committees

The Ames Safety Committees provide leadership associated with the interpretation and compliance of safety and health standards, and advise the Executive Safety Committee on safety policy matters. Individual members are responsible for keeping themselves informed of Centerwide safety activities, particularly with respect to the discipline areas they represent. Any problem that cannot be resolved by the Safety Committee is referred to the Executive Safety Committee.

2.3.1 Aircraft and Ground Safety Committee

The Aircraft and Ground Safety Committee is responsible for reviewing ground operations of aircraft to detect and reduce safety hazards to persons, aircraft, and ground support equipment. The scope of committee activities includes hangar and ramp safety, personnel activities, and employment of equipment in support of aircraft operations. This committee: reviews aircraft support incidents of a hazardous nature making recommendations for corrective action; resolves problems with the interpretation and compliance of applicable codes; and reviews and approves critical system designs. Committee members in conjunction with line supervision are responsible for assuring that aircraft support personnel are adequately trained. Also, committee members will request feedback from personnel concerning difficulties with procedures and policies that relate to aircraft operations.

1. through 3. — REDACTED

2.3.2 Airworthiness and Flight Safety Review Board (AFSRB)

This committee establishes airworthiness and flight safety review requirements that are commensurate with the degree of risk involved as applied to acceptance or modification of Center aircraft, changes in flight envelopes or operations procedures, and the performance of missions. APD 1740.1, Airworthiness and Flight Safety outlined for Airworthiness and Flight Safety Reviews, sets out the schedule and outline format for preliminary, design, and operational airworthiness and flight safety reviews that may be required for projects that involve the use, modification, design, or fabrication of existing and proposed Center aircraft. At the discretion of the Chairman of the Airworthiness and Flight Safety Review Board, one or more of these reviews may be required. The Chairman determines the need for reviews and the extent of them on the basis of Aircraft Flight Project Request submitted by cognizant project personnel in accordance with the provisions of APD 1740.1, Airworthiness and Flight Safety.

2.3.3 Chemical Management Systems Committee

Assure that all chemicals at the center are properly stored, properly labeled, and properly documented (MSDS).

2.3.4 Ergonomics Committee

The Ergonomics Committee works to reduce the number and severity of Repetitive Stress Injuries (RSIs) caused by exposure to risk factors in the workplace. The committee also educates employees on signs and symptoms of RSIs and proper ergonomics. Committee members inform employees on how to purchase ergonomic accessories and encourage supervisor support/involvement.

2.3.5 Explosive Safety Committee

The Explosives Safety Committee is responsible for safety aspects of all explosives at Ames, and assures that Ames personnel are in current and complete compliance with regulations addressing the procurement, storage, handling, use, and safe disposal of explosives. This committee:

1. through 3. — REDACTED

2.3.6 Executive Safety Committee

The ESC reports to the Center Director.

1. through 11. — REDACTED

2.3.7 Human Occupancy Review Board (HORB)

The HORB is tasked to review documentation and to conduct an initial operational readiness review of new human occupied facilities to assure the safe operation of these facilities that expose their human occupants to non-ambient environmental conditions, such as accelerations, altered barometric pressures, high or low environmental temperatures, altered gaseous breathing mixtures, etc. REDACTED

2.3.8 Human Research Institutional Review Board

1. Although the HRIRB is not a safety committee per se, safety considerations are of primary importance in its evaluation of human research proposals submitted for the Board's review and approval.
   - REDACTED
2. The membership of the HRIRB comprises a chairperson and at least four other members. REDACTED

The HRIRB meets regularly or at the request of the chairperson, senior management, a principal investigator, or a research subject. REDACTED

2.3.9 Ionizing Radiation Safety Committee

1. The Radiation Safety Committee is responsible for reviewing and approving all activities that involve ionizing materials. Sources of ionizing radiation are radioactive isotopes, X-ray tubes and machines, and accelerators. This committee:
   - Resolves problems with the interpretation and compliance of applicable standards;
   - Reviews radiation-related incidents of a hazardous nature making recommendations for corrective action; and
   - Provides recommendations for all aspects of systems designed to use, store and dispose of ionizing radiation energy.
2. Supervisors are responsible for assuring that personnel working with ionizing radiation are adequately trained.
3. The Radiation Safety Committee comprised of the Radiation Safety Officer, a representative of the NASA Safety, Health and Medical Services Division, a Code QH representative, and research scientists.
4. REDACTED

The committee meets at the call of the chairperson, at least once every six months, or more often if necessary, in order to discuss incidents, problems, and issues that concern activities involving ionizing materials.

2.3.10 Machine Shop Safety Committee

This Team is to first develop an action plan for mitigating OSHA's concern for the general lack of machine guarding at the Center in all shops. Second, the Team must make sure that there are management oversight/insight systems in place that assures that all machine shops are properly controlled and monitored to be certain they are safely operated.

2.3.11 Non-Ionizing Radiation Safety Committee

1. The Nonionizing Radiation Safety Committee is responsible for:
   a. Reviewing and approving all activities that involve nonionizing materials;
   b. Reviews nonionizing related incidents of a hazardous nature making recommendations for corrective action; and
   c. Recommends procedures for all aspects of systems designed to utilize non-ionizing radiation energy. Sources of nonionizing radiation include lasers and microwave sources, RF equipment, infrared devices, etc.
2. Supervisors are responsible for assuring personnel working with nonionizing radiation sources are adequately trained.
3. The Nonionizing Radiation Safety Committee comprises of the Radiation Safety Officer, a representative of the Occupational Safety, Health and Medical Services Office, a Code QH representative, research scientists, and an attorney advisor. The committee chairperson, in absence of the Radiation Safety Officer, is the nonionizing radiation safety authority.
4. REDACTED

The committee meets at the call of the chairperson, at least once every six months, or more often if necessary, in order to discuss incidents, problems, and issues that concern activities involving nonionizing materials.

2.3.12 Pressure Systems Safety Committee

1. The Pressure Systems Safety Committee (PSSC) makes policy and recommends design guidelines concerning pressure systems. At the request of the Pressure System Safety Engineer (PSSE), project engineers, system designers or users, the committee conducts reviews and provides approval for deviations from the requirements stated in Chapter 10: Pressure Systems Safety. The committee also considers appeals of waivers rejected by the PSSE and/or the chairperson. REDACTED
2. The membership of the PSSC comprises the Chief, Facilities Engineering Branch, a member from Safety, Environmental, and Mission Assurance, and persons who use and/or have knowledge of pressure systems. REDACTED
3. The PSSC periodically reviews and updates for approval and inclusion as Ames policy Chapter 10.

The committee meets at the call of the chairperson at least once every year, or more often if necessary, in order to discuss incidents, problems, and issues that concern pressure systems.

2.3.13 Union/Management Safety Committee

The Center and the Union have agreed to work together to improve the Ames Safety Program. The Ames Union/Management Safety Committee serves as the primary vehicle for the exchange of information under the VPP and supports the Center's and Unions commitment to safety. This committee functions as a subcommittee of the Ames Research Center Partnership Council and reports its progress on VPP and other safety matters to the Council. (Ref: Record of Negotiation dated June 11, 2001)

2.4 References

These and all NASA Directives and Standards can be viewed online at http://www.hq.nasa.gov/office/codeq/doctree/index.htm

1. NPD 8710.2, NASA Safety ProgramPolicy
2. NPG 1800.2, NASA Occupational Health Program Procedures
3. NPD 1820.1, NASA Environmental Health Program
4. NPG 8715.1, Safety and Health Handbook, Occupational Safety and Health Programs
5. NPG 8715.2, NASA Emergency Preparedness Plan Procedures and Guidelines
6. NPG 8715.3, NASA Safety Manual
7. NPD 8621.1, NASA Mishap and Close-Call Reporting, Investigating, and Recordkeeping Policy
8. AMI 5310.1, Q/Office of Safety, Reliability and Quality Assurance

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2.5 Appendix A: Safety and Health Plan Outline

Appendix A. Sample Safety and Health Plan for Service or Operations Contracts

The offeror shall submit a detailed safety and health plan, as part of its proposal, showing how the contractor intends to protect the life, health, and well-being of NASA and contractor employees as well as property and equipment. The plan must include a detailed discussion of the policies, procedures, and techniques that will be used to ensure the safety and health of contractor employees and to ensure the safety of all working conditions throughout the performance of the contract. The plan must similarly address safety and health for subcontractor employees for any proposed subcontract whose value is expected to exceed $500,000 including commercial services and services provided in support of a commercial item. Also, when applicable, the plan must address the policies, procedures, and techniques that will be used to ensure the safety and health of NASA employees and the public. This plan, as approved by the contracting officer, will be

included in any resulting contract. In addition, if a contractor is to work or be located on-site at a NASA facility or Center, the contractor will ensure the protection of personnel, property, equipment, and the environment in the production of contractor products and or the pursuit of any of its activities. In order for NASA to understand the contractor's method for compliance with pertinent NASA policies and requirements and Federal, State, and local regulations for safety, health, environmental protection, and fire protection, the contractor shall develop and subsequently implement a safety and health program in accordance with a safety and health plan generated by the contractor and approved by NASA. The plan will also assure the proper integration of the on-site contractor as a full participant in the Center's Safety and Health Program. This plan shall contain the information requested in the outline of contractor safety and health plan as follows:

Contents of the Contractor Safety and Health Plan

1.0 MANAGEMENT LEADERSHIP AND EMPLOYEE PARTICIPATION.

1.1 Policy. Provide the contractor's corporate safety policy statement with the plan. Compare the contractor's policy statement with those of NASA and OSHA and discuss any differences.

1.2 Goals and Objectives. Describe specific goals and objectives to be met. Discuss status of safety program using the Performance Evaluation Profile (PEP) as safety performance criteria. Describe the contractor's approach (including milestone schedule) to achieve and maintain level 5 of the PEP in all areas (see contents of PEP).

1.3 Management Leadership. Describe management's procedures for implementing its commitment to safety and health through visible management activities and initiatives including a commitment to the exercise of management control to ensure workplace safety and health. Describe processes and procedures for making this visible in all contract and subcontract activities and products. Include a statement from the project manager or designated safety official indicating that the plan will be implemented as approved and that the project manager will take personal responsibility for its implementation.

1.4 Employee Involvement. Describe procedures to promote and implement employee (e.g., non-supervisory) involvement in safety and health program development, implementation, and decision making. Describe the scope and breadth of employee participation to be achieved so that approximate safety and health risk areas of the contract are equitably represented.

1.5 Assignment of Responsibility. Describe line and staff responsibilities for safety and health program implementation. Identify any other personnel or organization that provides safety services or exercises any form of control or assurance in these areas. State the means of communication and interface concerning related issues used by line, staff, and others (such as documentation, concurrence requirements, committee structure, sharing of the work site with NASA and other contractors, or other special responsibilities and support). As a minimum, the contractor will identify the following:

a. Safety Representative. Identify by title the individual who will be responsible for the contractor's adherence to Center-wide safety, health, environmental, and fire protection concerns and goals, and who will participate in meetings and other activities related to the Center's Safety and Health program.

b. Company Physician. Provide the identification of a company physician to facilitate communication of medical data to the head of the NASA clinic. The contractor shall identify a point of contact (such as the company physician) by name, address, and telephone number to the NASA Center Clinic, mail code ____. Any changes that occur in the identity of the point of contact will be promptly conveyed to the NASA Clinic.

c. Building Fire Wardens. Each building occupied by the contractor shall assign an individual to facilitate the Center's fire safety program including coordination of related issues with NASA facility managers and emergency planning and response officials and their representatives.

d. Designated Safety Official. Identify by title the official(s) responsible for implementation of this plan and all formal contacts with regulatory agencies and with NASA.

1.6 Provision of Authority. Describe consistency of the plan with applicable NASA requirements and contractual direction as well as applicable Federal, State, and local regulations and how this will be maintained throughout the life of the contract.

1.7 Accountability. Describe procedures for ensuring that management and employees will be held accountable for implementing their tasks in a safe and healthful manner. The use of traditional and/or innovative personnel management methods (including discipline, motivational techniques, or any other technique that ensures accountability) will be referenced as a minimum and described as appropriate.

1.8 Program Evaluation. Describe the method for internal program evaluation. The program evaluation may consist of either (1) participation in a PEP survey at the request of the Government or (2) a written report which documents the contractor's procedures for determining the existence and criticality of the contractor's hazardous operations in a manner that proper risk management techniques can be applied and notable safety risk documented. The report will also include but is not limited to the following: identification of the contractor's hazardous operations and products; ranking the risk in a severity classification; approach to identifying and implementing specific risk evaluation tasks, managing the risks, and documenting the results; and responsibilities and methods for internal audits and evaluations of the overall safety and health program including personnel who conduct the audit and evaluation, to whom the report is made, and the frequency (at least annually) with which it is performed. These evaluations shall include subcontracted tasks. Correlation of the program evaluation to the applicable criteria of the PEP will be clearly described.

When a written program evaluation is requested, it will be delivered to the Government no later than 30 days after the end of each contract year or at the end of the contract, whichever is applicable. Distribution of these program evaluations will be the same as that for the safety and health plan. The PEP survey will be scheduled and administered at the discretion of the Government.

1.9 The contractor will describe its approach to document its safety and health program performance to provide the Government with the necessary visibility and insight. This includes the identification, acquisition, and processing of safety and health data; development of procedures; recordkeeping; statistical analyses including metrics; and the furnishing of data and reports to the Government. Electronic access by the Government to this data is preferred as long as Privacy Act requirements are met and Government safety and health professionals and their representatives have full and unimpeded access for review and audit purposes. For contractor activities conducted on NASA property, the contractor will identify what records it will make available to the Government in accordance with the Voluntary Protection Program criteria of OSHA as implemented in [local Center's] Requirements Handbook for Safety, Health, and Environmental Protection, as revised. For the purpose of this plan, safety and health documentation includes but is not limited to logs, records, minutes, procedures, checklists, statistics, reports, analyses, notes, or other written or electronic document which contains in whole or in part any subject matter pertinent to safety, health, environmental protection, or emergency preparedness. The contractor will acknowledge the following as standing requests of the Government to be handled as described below.

a. Roster of Terminated Employees. NASA will expect that terminated employees be reported to the Center occupational health program office. Identify personnel terminated by contractor. Send the report to the Occupational Health Officer no later than 30 days after the end of each contract year or at the end of the contract, whichever is applicable. At the contractor's discretion, the report may be submitted for personnel changes during the previous year or cumulated for all years.

Information required:

(1) Date of report, contractor identity, and contract number.

(2) For each person listed, provide name, social security number, assigned Center badge number, and date of termination.

(3) Name, address, and telephone number of contractor representative to be contacted for questions or other information.

b. Material Safety Data. Describe the procedure by which the contractor shall prepare and/or deliver to NASA, Material Safety Data for hazardous materials brought onto Government property or included in products delivered to the Government. These data are required by the Occupational Safety and Health Administration (OSHA) regulation, 29 CFR 1910.1200, "Hazard Communication," and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities," as revised. A single copy of each Material Safety Data Sheet (MSDS) will be sent upon receipt of the material for use on NASA property to the Center's Central Repository, Mail Code ____, along with information on new or changed locations and/or quantities normally stored or used. If the MSDS arrives with the material and is needed for immediate use, the MSDS shall be delivered to the Central Repository by close of business of the next working day after it enters the site.

c. Hazardous Materials Inventory. The contractor shall compile an annual inventory report of all hazardous materials it has located on Government property and which is within the scope of 29 CFR 1910.1200, "Hazard Communication," and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities," as revised. The call for this annual inventory is issued by the [responsible NASA official], mail code ____. This information shall provide the following:

(1) the identity of the material.

(2) the location of the material by building and room.

(3) the quantity of each material normally kept at each location.

1.10 Government Access to Safety and Health Program Documentation. The contractor shall recognize in its plan that it will be expected to make all safety and health documentation (including relevant personnel records) available for inspection or audit at the Government's request.

1.11 The contractor may be requested to participate in the review and modification of safety requirements that are to be implemented by the Government including any referenced documents therein. This review activity will be implemented at the direction of the NASA Contracting Officer's Technical Representative in accordance with established NASA directives and procedures.

1.12 Procurement. Identify procedures used to assure that the contractor's procurements are reviewed for safety considerations and that specifications contain appropriate safety criteria and instructions. Set forth authority and responsibility to assure that safety tasks are clearly stated in subcontracts.

2.0 WORKPLACE ANALYSIS. Describe the method by which hazards within the contractor's workplace shall be systematically identified during the duration of the contract. The identified method should explain the information collection process for assembling, through a combination of surveys, analyses, and inspections of the workplace, investigations of mishaps and close calls, and the collection and trend analysis of safety and health data such as: records of occupational injuries and illnesses; findings and observations from preventive maintenance activities; reports of spills and inadvertent releases to the environment; facilities related incidents related to partial or full loss of systems functions; employee reports of hazard; etc. Every hazard identified by any of the techniques identified below shall be ranked and processed in accordance with Center procedure. All hazards on NASA property, which are immediately dangerous to life or health, shall be reported immediately to the NASA safety office. All safety engineering products, which address operations, equipment, etc., on NASA property will be subject to the review and concurrence of the NASA Safety Office unless otherwise specified in the approved safety and health plan. The contractor is

expected to have processes to address similar instances in contractor facilities utilizing contractor resources to manage such instances.

2.1 Hazard Identification. Describe the procedures and techniques to be used to compile an inventory of hazards associated with the work to be performed on this contract. This inventory of hazards shall address the work specified in this contract as well as operations and work environments which are performed in the vicinity or in close proximity to contract operations. The results will be reported to the Government in a manner suitable for inclusion in facilities baseline documentation as a permanent record of the facility. Specific techniques to be considered include:

a. Comprehensive Survey. A "wall to wall" engineering assessment of the work site including facilities, equipment, processes, and materials (including waste).

b. Change Analysis. Typically addresses modifications in facilities, equipment, processes, and materials (including waste); and related procedures for operations and maintenance. Change analyses periodically will be driven by new or modified regulatory and NASA requirements.

c. Hazard Analysis. May address facilities, systems/subsystems, operations, processes, materials (including waste), and specific tasks or jobs.

2.2 Inspections. This paragraph includes requirements for assignments, procedures, and frequency for regular inspection and evaluation of work areas for hazards and accountability for implementation of corrective measures. The contractor will describe administrative requirements and procedures for control of and regularly scheduled inspections for fire and explosion hazards. The contractor has the option, in lieu of this detail, to identify policies and procedures with the stipulation that the results (including findings) of inspections conducted on NASA property or involving Government furnished property will be documented in safety program evaluations or the monthly Accident/Incident Summary reports. Inspections will identify the following:

a. Discrepancies between observed conditions and current requirements.

b. New (not previously identified) or modified hazards.

2.3 Employee Reports of Hazards. Identification of methods to encourage employee reports of hazardous conditions (e.g., close calls) and analyze/abate hazards. The contractor will describe steps it will take to create reprisal-free employee reporting with emphasis on management support for employees and describe methods to be used to incorporate employee insights into hazard abatement and motivation/awareness activities.

3.0 MISHAP INVESTIGATION AND RECORD ANALYSIS.

3.1 Mishap Investigation. Identification of methods to assure the reporting and investigation of mishaps including corrective actions implemented to prevent recurrence. The contractor will describe the methods to be used to report and investigate mishaps on NASA property and on contractor or third party property. The contractor shall describe its procedures for implementing use of NASA mishap reporting and investigation forms and alternate forms used by the contractor with emphasis on timely notification of NASA; investigation procedures; exercise of jurisdiction over a mishap investigation involving NASA and other contractor personnel; follow up of corrective actions; communication of lessons learned to NASA; and solutions to minimize duplications in reporting and documentation including use of alternate forms, etc. The contractor will discuss its procedures for immediate notification requirements for fires, hazardous materials releases, and other emergencies. The contractor will include appropriate details to address the use of NASA Form 1627, "Mishap Report" (or equivalent), including 24-hour and ten-day mishap reports to the Occupational Safety Office, **REDACTED**.

3.2 Trend Analysis. Describe approach to performing trend analysis of data (occupational injuries and illnesses; facilities, systems, and equipment performance; maintenance findings; etc.) Discuss methods to identify and abate common causes indicated by trend analysis. In support of

site-wide trend analysis to be performed by the Government, the contractor will discuss method of providing data as follows:

a. Accident/Incident Summary Report. The contractor shall describe how it shall prepare and deliver Accident/Incident Summary Reports as specified on [specify locally used format]. All new and open mishaps, including vehicle accidents, incidents, injuries, fires, and any close calls shall be described in summary form along with current status. Negative reports are to be required monthly. Report frequency is monthly; date due is the 10th day of the month following each month reported. Report to be delivered to the Center Safety Office, mail code _____.

b. Log of Occupational Injuries and Illnesses. For each establishment on and off NASA property that performs work on this contract, the contractor shall deliver to the Government (under separate contractor's cover letter), a copy of its annual summary of occupational injuries and illnesses (or equivalent) as described in Title 29, Code of Federal Regulations, Subpart 1904.5. If contractor is exempt by regulation from maintaining and publishing such logs, equivalent data in contractor's format is acceptable (such as loss runs from insurance carrier) which contains the data required. Data shall be compiled and reported by calendar year and provided to the Government within 45 days after the end of the year to be reported (e.g., not later than February 15 of the year following).

4.0 HAZARD PREVENTION AND CONTROL. Identified hazards must be eliminated or controlled. In the multiple employer environment of the Center, it is required that hazards including discrepancies and corrective actions be collected in the Center's information data system (provide name of system here) for risk management purposes. Describe your approach to implementing this requirement.

4.1 Appropriate Controls. Discuss approach to consideration and selection of controls. Discuss use of hazard reduction precedence sequence. Discuss approach to identifying and accepting any residual risk. Discuss implementation of controls including verifying effectiveness. Discuss scope of coverage (hazardous chemicals, equipment, discharges, waste, energies, etc.). Discuss need for coordination with safety, health, environmental services, and emergency authorities at NASA.

4.1.1 Hazardous Operations. Establish methods for notification of personnel when hazardous operations are to be performed in their facilities or when hazardous conditions are found to exist during the course of this contract. NASA policy will serve as a guide for defining, classifying, and prioritizing hazardous operations. Develop and maintain a list of hazardous operations to be performed during the life of this contract. The list of hazardous operations will be provided to the contracting officer as part of the safety plan for review and approval. The contracting officer (CO) and the contractor will decide jointly which operations are to be considered hazardous, with the CO as the final authority. Before hazardous operations commence, the contractor will develop a schedule to develop written hazardous operations procedures with particular emphasis on identifying the job safety steps required. The contractor may implement this requirement as follows:

a. Identify contractor policies and procedures for management and implementation of hazardous operations procedures together with a statement that NASA will have access on request to any contractor data necessary to verify implementation; or

b. In lieu of contractor management and development of such procedures, identify the method whereby the contractor will identify and submit such procedures to the NASA Occupational Safety Office for review and approval.

4.1.2 Written Procedures. Identification of methods to assure that the relevant hazardous situations and proper controls are identified in documentation such as inspection procedures, test procedures, etc., and other related information. Describe methods to assure that written procedures are developed for all hazardous operations, including testing, maintenance, repairs, and handling of hazardous materials and hazardous waste. Procedures will be developed in a

format suitable for use as safety documentation (such as a safety manual) and be readily available to personnel as required to correctly perform their duties.

4.1.3 Protective Equipment. Set forth procedures for obtaining, inspecting, and maintaining protective equipment, as required, or reference written procedure pertaining to this subject. Set forth methods for keeping records of such inspections and maintenance programs.

4.1.4 Hazardous Operations Permits. Identify facilities, operations, and/or tasks where hazardous operations permits will be required as specified in the Center's local requirement. Set forth guidance to adhere to established NASA Center procedures. Clearly state the role of the safety group or function to control such permits.

a. Operations Involving Potential Asbestos Exposures. Set forth method by which compliance is assured with the Center's Asbestos Control Program as established in local policy.

b. Operations Involving Exposures to Toxic or Unhealthful Materials. Such operations must be evaluated by the NASA Occupational Health Office and must be properly controlled as advised by same. The NASA Occupational Health Office must be notified prior to initiation of any new or modified operation potentially hazardous to health.

c. Operations Involving Hazardous Waste. Identify procedures used to manage hazardous waste from point of generation through disposal. Clearly identify divisions of responsibility between contractor and NASA for hazardous waste generated throughout the life of the contract. Operations which occur on site must also be evaluated by the Center environmental services office and must be properly controlled as advised by same. The Center environmental services office must be notified prior to initiation of any new or modified hazardous waste operation on site.

d. Operations Involving New or Modified Emissions/Discharges to the Environment. Set forth methods for identifying new or modified emissions/discharges and coordinating results with the Center environmental services office. Set forth procedures to minimize or eliminate environmental pollution. Address management of hazardous materials; substitution of non-hazardous or less hazardous materials for hazardous materials; proper segregation of hazardous wastes from non-hazardous wastes; and other methods described by NASA. Emphasis shall be placed on providing for sufficient lead-time for processing permits through the appropriate State agency and/or the Environmental Protection Agency.

4.2 Discuss your responsibilities for maintaining facilities baseline documentation in accordance with Center requirements. The contractor will implement any facilities baseline documentation tasks (including safety engineering) as provided in the contractor's safety and health plan approved by NASA or as required by Government direction.

4.3 Preventive Maintenance. Discuss approach to preventive maintenance. Describe scope, frequency, and supporting rationale for your preventive maintenance program including facilities and/or equipment to be emphasized or de-emphasized. Discuss methods to promote awareness in the NASA community (such as alerts, safety flashes, etc.) when preventive maintenance reveals design or operational concerns in facilities and equipment (and related processes where applicable).

4.4 Medical Program. Discuss your medical surveillance program to evaluate personnel and workplace conditions to identify specific health issues and prevent degradation of personnel health as a result of occupational exposures. Discuss approach to cardiopulmonary resuscitation (CPR), first aid, and emergency response.

5.0 EMERGENCY RESPONSE. Discuss approach to emergency preparedness and contingency planning which addresses fire, explosion, inclement weather, environmental releases, etc. Discuss compliance with 29 CFR 1910.120 (HAZWOPER) and the role the contractor will play in the local Incident Command System. Discuss methods to be used for notification of Center emergency forces including emergency dispatcher, safety hotline, director's safety hotline, etc.

Discuss establishment of pre-planning strategies through procedures, training, drills, etc. Discuss methods to verify emergency readiness.

6.0 SAFETY AND HEALTH TRAINING. Describe the contractor's training program including identification of responsibility for training employees to assure understanding of safe work practices, hazard recognition, and appropriate responses including protective and/or emergency countermeasures. Address management techniques used to identify and utilize any Center training resources (such as asbestos worker training/certification, hazard communication, confined space entry, lockout/tagout, etc.) as appropriate with particular emphasis on programs designed for the multiple employer work environment on NASA property. Describe approach to training personnel in the proper use and care of protective equipment. Discuss tailoring of training towards specific audiences (management, supervisors, and employees) and topics (safety orientation for new hires, specific training for certain tasks or operations). Discuss approach to ensure that training is retained and practiced. Discuss personnel certification programs. Certifications should include documentation that training requirements have been satisfied and learning validated by one or more of the following: physical examination, testing, on-the-job performance, etc. All training materials and training records will be provided for NASA review on request.

END OF DOCUMENT